

**Fermilab  
FY2002 Self-assessment  
Process Assessment Report  
For  
Technical Division**

**22-Mar-2002**

Division/Section performing assessment

Technical Division, ES&H Section and Department of Energy

Name of organization that owns assessed process

Technical Division

Organization Strategy

Safety is central to everything the Laboratory and the Technical Division does. Part of the overall ES&H program is to conduct assessments to verify the effectiveness of the safety systems. Ensuring that work is conducted in the safest manner possible helps the Division to succeed in being a world-class organization in the field of HEP.

Names of Personnel on Assessment team

Richard Ruthe, TD Senior Safety Officer  
Romesh Sood, Associate Head Technical Division  
Mary Logue, Associate Head ES&H Section  
John Scott, DoE Fermi Area Office Representative

Name of process assessed

Integrated Safety Management (ISM) in Technical Division

Brief description of process to be assessed

This assessment of the implementation of ISM in the TD was conducted as a Tripartite assessment. Section 9 of the Fermilab Self-Assessment Program Plan states "The Tripartite Assessment Program is the primary vehicle for implementing the Fermilab Self-Assessment Program. The Tripartite Assessment Program merges the needs for oversight and self-assessment of the line organizations, ES&H Section independent assessments, and the Fermi Group ES&H oversight into one integrated assessment plan.

The three parties will collaborate to review the activities (work) of the organization, risks posed by those activities, the performance (e.g. accident/injury/incident record), regulatory requirements, potential Laboratory vulnerabilities/liabilities, Laboratory goals, and performance expectations, and DOE goals and performance expectations. A plan is developed from these discussions for the assessments to be done as well as agreement on which organization will lead, which organizations will otherwise participate in each assessment and the reporting format. The goal of this process is to develop a plan for assessments focused on the important, high risk issues and to minimize duplicate assessments."

Are metrics associated with this process? If so, what are they?

The achievement of the Tripartite ISMS assessment of the Technical Division is Indicator 3 of Objective 2 in section C of topic II Operations Management of performance area 1 in Appendix B of the prime contract (see page B-14 of the contract).

What are the names of the procedures associated with this process?

Fermilab Self-Assessment Program Plan (published by the ES&H Section)  
TD Self-Assessment Program TD-2020

Are these procedures being followed? Are they current?

These procedures are being followed, and they are current.

Describe the methodology used to assess this process.

The Tripartite assessments have been conducted for many years now. They entail the Division/Section, the ES&H Section and the DoE Fermi Area Office working together to conduct assessments of ES&H topics. The three groups plan and conduct the assessments as a team. For this assessment, it was the first Tripartite assessment of the implementation of ISM in a Division/Section. The process entailed defining the scope of each phase (it had earlier been decided to conduct this assessment in three phases, but the details of each phase needed to be determined). The first phase was to be a documentation and records review to determine the level to which ISM has been formally incorporated into the operations of the Division. This assessment report only pertains to phase 1 of the overall Tripartite ISM assessment.

Results of the assessment:

The conclusion of the assessment was that ISM is fully implemented in the Technical Division, giving an overall rating of **excellent**. It was clear that much effort and thought has been put into incorporating ISM into every operation in the Technical Division. The overall safety record within the Division is excellent, especially when factoring in the high-risk work that is done (e.g. the Machine Shop operates within the Technical Division organization). This safety record indicates that the overall safety systems are at work and functioning well.

There were no major deficiencies found. There were a few recommendations for

improving "an already well functioning program", and these are described below. This was the first time that the ISM was assessed, and so there was no prior comparison to be made. There also was no comparison made to other Divisions/Sections or to other labs or industry. It is our belief that we should be leading industry when it comes to safety.

The following items were highlighted as exceptionally good practices within the Technical Division:

1. The employee-only departmental Grassroots Safety Committees (consisting of no supervisory personnel), and the responses by departmental and divisional management to the issues raised in the committees.
2. The Division Head assessments of a different department that occur each quarter. Departmental safety records and issued are extensively reviewed in these meetings.
3. The Building Managers Committee, which meets every other month.

#### Identified opportunities for improvement

The following recommendations were made:

1. The old policies in the Policies & Procedures Manual should be reviewed and updated as appropriate, and the Division Head should issue a memo stating that he fully supports the policies and procedures in the manual.
2. The Division Head should issue a memo stating his safety philosophy.
3. A charter should be developed for the Building Managers Committee.
4. The OSHA-type inspections should be reviewed for effectiveness, and the system should be adjusted as need to maintain a high level of effectiveness.
5. The Operational Readiness Clearance (ORC) program should be formally documented.

#### Schedule for implementation of improvements

1. The policies in the manual are being reviewed on a regular basis. Continual progress is being made on updating them.
2. A memo went out in May stating the Division Heads philosophy on safety, and a round of safety-talks by the Division Head were given to all employees in June/July.
3. A charter is being created for the Building Managers Committee, and should be completed by the last quarter of CY2002.
4. The OSHA-type inspections are being reviewed in the Building Managers and ES&H committees, and appropriate improvements will be implemented as they are formalized and approved.
5. A formal ORC document has been written and was approved 30-Sep-2002.

#### Status of improvements from previous assessment

N/A

Attachments (supporting data, worksheets, reports, etc.)

The following attachments are incorporated into this document:

"Self-Assessment Report" - This is the report which summarizes the phase 1 Tripartite assessment, and list the documents and records which were reviewed during the assessment

"TD Policies List" - This is the table of contents for the TD Policies & Procedures Manual

## SELF-ASSESSMENT REPORT

*This template should be used to document the results of an internal assessment. Many fields have online help which can be viewed by pressing F1 while the cursor is positioned on the field of interest.*

### Assessment information

Start date > 02/01/2002      End date > 04/02/2002      Assessed Technical  
organization > Division  
Title > Tirpartite Self-Assessment of Integrated Safety Management - Phase I  
Motivation > No D/S has previously been assessed for ISM implementation.  
Category > Scheduled      Frequency > Ad-hoc      Type > Tripartite self-assessment  
>

### Assessment team

	Name	Fermi ID#	Organization	Title
Lead >	Richard Ruthe	12260N	Technical Division	ES&H Officer, SSO
Participant >	Mary Logue	11773N	ES&H Section	Associate Head, Health & Safety
Participant >	John Scott	9099V	DOE-FAO	DOE Facility Representative
Participant >	Romesh Sood	1886N	Technical Division	Associate Head, Support
Participant >				
Participant >				

## Assessment narrative report

### Planning Meeting

On February 1, 2002, Rich Ruthe, Mary Logue and John Scott held a planning meeting to determine the form and extent of an ISM tripartite self-assessment of the Technical Division. A format had not previously been established because this would be the first ISM tripartite self-assessment for any division/section. The Technical Division ISM tripartite had been scheduled to occur in three phases, but it had not been determined what each phase would cover. It was determined in the planning meeting that the Technical Division ISM tripartite self-assessment would be broken down as follows:

- (1) Phase I: Review written documentation and other records that pertain to implementing the principles of ISM within the Technical Division.
- (2) Phase II: Scheduled for third quarter FY 2002, go out into the division's departments and interview both supervisors and employees to determine the actual implementation of ISM within the Technical Division.
- (3) Phase III: The need for this phase will be determined after the completion of Phase II.

After determining that Phase I of the ISM tripartite self-assessment would consist of a records and documentation review, a discussion ensued regarding the types of documents and records that should be included in the review. Mary provided a copy of a table that had been developed for an ISM review at Argonne National Laboratory, which provided a listing of documents that would verify the implementation of each ISM principle for projects at that location. Rich then used this concept to organize the records and documentation that could be produced to document the implementation of the seven ISM principles in the Technical Division. (Attachment 1) Brief descriptions for the documentation and records listed in Attachment 1 have been prepared for this report (Attachment 2) for those unfamiliar with the procedures within the Technical Division.

### Records Review

The review of the documentation and records occurred on March 22, 2002. The records were assembled on a large conference table, organized by the categories listed in Attachment 1. Before the actual review began, Rich Ruthe and Romesh Sood gave an overview of the Technical Division Occupational Injury and Illness Reduction Program (Attachment 3). Each of the program elements was reviewed, and where it fit into the implementation of ISM was indicated. Mary Logue and John Scott then reviewed the information that had been assembled. Rich Ruthe had reviewed the information as it was collected and organized for the tripartite self-assessment.

## **Results of Phase 1 Review**

### Findings

There were no findings regarding the implementation of ISM in the Technical Division based on the records and documentation reviewed. The conclusion was that all of the ISM principles were at work based on the documentation.

### Exceptional Practices

The following items were highlighted as exceptionally good practices within the Technical Division:

- (1) The employee-only departmental Grassroots Safety Committees (consisting of no supervisory personnel), the responses by department management to the written minutes, and the follow-up by the Division Head if the department head is unresponsive to the concerns expressed in the committee meetings.
- (2) The Division Head assessments of a different department that occur each quarter. A major component of the assessment is a review of environment, safety and health issues within the department.
- (3) The Building Managers Committee, which meets every other month. This committee addresses key issues that can have a significant positive impact on the division's ISM program.

### Recommendations

While there were no findings, the following recommendations are made with the intent of improving an already well functioning program:

- (1) Concerning the Technical Division Policy and Procedures Manual:
  - (A) It is suggested that the Division Head issue a communiqué stating that he fully supports the policies and procedures that appear in the manual.
  - (B) Some of the older policies may have outlived their usefulness, and therefore should be reviewed and either updated or removed.
- (2) The new Division Head should issue a communiqué to all Technical Division employees stating his safety philosophy.
- (3) A charter should be developed for the Building Managers Committee.
- (4) The Technical Division should review its Self-Assessment Program (SAP), also known as the OSHA inspection program, to determine if any

improvements are possible or if the program has accomplished its goal. The inspectors now find few “violations”, and it is questioned whether this is actually due to a reduction in safety violations, or to a loss of interest by the inspectors. Suggested possible changes include reducing the frequency (if there are indeed few if any violations to be found) or changing the duties of the inspectors, e.g. documenting positive aspects about the work areas.

- (5) Formalize the Operations Readiness Clearance (ORC) program by developing written procedures that define the trigger(s) for an ORC review. A trigger or threshold has not been clearly defined. In certain instances, a review by the SSO has been deemed adequate.

### **Response to Recommendations**

- (1) While newer or more recently updated Technical Division policies and procedures have been located on the division home page, the process has been somewhat slow for adding the older policies to the home page. Additional effort will be given to reviewing the older policies, removing those that are no longer applicable, and providing a scanned version on the home page for those that remain applicable.
- (2) Communication of the new Division Head’s safety philosophy to all employees will be conducted in two ways:
  - (A) A memo will go out to all employees from the Division Head at the beginning of May.
  - (B) The Division Head will hold all-employee safety talks in the May/June time frame rather than waiting until the fall.
- (3) A charter will be developed for the Building Managers Committee.
- (4) The SAP inspection program will be discussed in the Building Managers and ES&H Committees since many of the members of these committees are also the SAP inspectors. Modifications to the program, if needed, will be based on the results of the discussions in those committees.
- (5) A written policy on Operational Readiness Clearance will be developed and distributed to employees via the Technical Division home page.



## ATTACHMENT 1

### Technical Division – Implementation of Integrated Safety Management

Line Management Responsibility	Clear Roles & Responsibilities	Competencies Commensurate w/ Responsibility	Balanced Priorities	Identify Safety Standards	Tailor Hazard Controls	Operations Authorization
1) Training Tickler Report  2) DuPont Training Report  3) TD Policy & Procedures Manual	1) Training Tickler Report  2) TD Policy & Procedures Manual	1) Training Tickler Report	2) Division Head Safety Talks (overheads)  3) Grassroots Safety Committees meeting minutes  4) Building Managers meeting minutes  5) TD ES&H Committee meeting minutes  6) Division Head Assessment of TD Departments (reports)  7) Self Assessment Program Inspection reports  8) TD ES&H Walk Through memos  9) ESHTRK report	1) Non-construction hazard analyses  2) ESHTRK report  3) Industrial Hygiene Assessments  4) Highly Protected Risk Assessments	1) Non-construction hazard analyses  2) Safety Reviews by TD SSO  3) Operational Readiness Reviews  4) Magnet Test Facility Safety Review Panel  5) LHC Safety Review Panel	1) Safety Reviews by TD SSO  2) Operational Readiness Reviews  3) Magnet Test Facility Safety Review Panel  4) LHC Safety Review Panel

## ATTACHMENT 2

### Documentation Description

Building Managers Meeting Minutes: A committee of all the Technical Division building managers meets every other month. Safety and indoor environmental issues are discussed in addition to physical plant issues.

Division Head Assessment of TD Departments: The Division Head performs an assessment of a different department each quarter. A range of topics pertinent to the department being reviewed are discussed, but the first and foremost topics of discussion are always:

- A review of the injuries and incidents since the last department assessment,
- The status of employee training within the department,
- The status of ESHTRK findings,
- Any other ES&H concerns pertinent to the department being assessed.

Division Head Safety Talks: A copy of the overheads from the Division Head all-employee safety talks that were presented in 2000 and 2001 were provided.

DuPont Training Report: Report generated by the Technical Division that lists all of the division supervisors, and highlights those that took the initial *Operations Manager Training* class and those that took the refresher training.

ESHTRK Report: A report generated from the ESHTRK database that listed the entire closed findings for the time period 01/01/2000 to 03/13/2002. The purpose of the report was to provide information on the type of findings discovered in Technical Division areas and their corrective actions.

Grassroots Safety Committee Meeting Minutes: Each division department has an employee-only, non-supervisory personnel safety committee chaired by a spokesperson. No safety, supervisory or management personnel participate in the meetings. Meeting minutes are generated and distributed to the department head, SSO, Associate Head for Support and the Division Head.

Industrial Hygiene Assessments: Provided so that the reviewers could ascertain the thoroughness of industrial hygiene evaluations that have been conducted, and the types of industrial hygiene issues encountered within the Technical Division.

Magnet Test Facility Safety Review Panel: The complete file for this panel was provided. This standing panel of the Cryogenic Safety Subcommittee is responsible for the evaluation of new equipment installations or modifications to existing equipment, and for the review of protocol modifications or the implementation of new testing protocols at the Magnet Test Facility located in Industrial Building 1. Technical expert representatives from the Technical Division and Beams Division sit on the panel, in addition to the Technical Division SSO.

Non-construction hazard analyses: A sampling of hazard analyses prepared by Technical Division employees for non-routine or unfamiliar activities was provided.

Operational Readiness Reviews: Before new pieces of equipment or new experimental apparatus become operational with Technical Division properties, the Division Head forms a review panel with a chairperson. The Panel reviews all aspects of the equipment's operation, and either suggests modifications before clearance can be recommended, or directly recommends to the Division Head that operational clearance be granted. The Division Head approves or disapproves operation of the equipment based on the recommendation(s) of the review panel.

Safety Reviews by TD SSO: An example of the types of reviews conducted by the Technical Division SSO before a new activity is implemented or a new piece of equipment becomes operational. These reviews pertain to activities or equipment generally with low hazards associated with them. Those with higher hazards require an Operation Readiness Clearance from the Division Head.

Self-Assessment Program Inspection Reports: The SAP inspections as they are called are conducted on a quarterly basis by a standing team of inspectors, and are conducted as an OSHA-style inspection. Each quarter the inspectors, who generally are hourly or weekly employees, inspect a different area, and never inspect the areas in which they work. An inspection form is completed, forwarded to the ES&H Group, and entered into ESHTRK.

TD ES&H Committee Meeting Minutes: A division-wide committee, each department within the division has at least one representative on the committee, and is chaired by one of the departmental representatives. The TD SSO, TD Facilities Task Manager, and the Associate Head for Support are ex-officio members.

TD ES&H Walk Through Memos: The Technical Division ES&H Group conducts quarterly walk throughs of all occupied areas, and less frequently for non-occupied areas. The focus of the walk through is to observe employee behavior, and talk to employees to discern whether they have any safety concerns. A memo providing an overview of the walk through is sent to the department head for the area, and the walk through and any discovered findings are entered into ESHTRK.

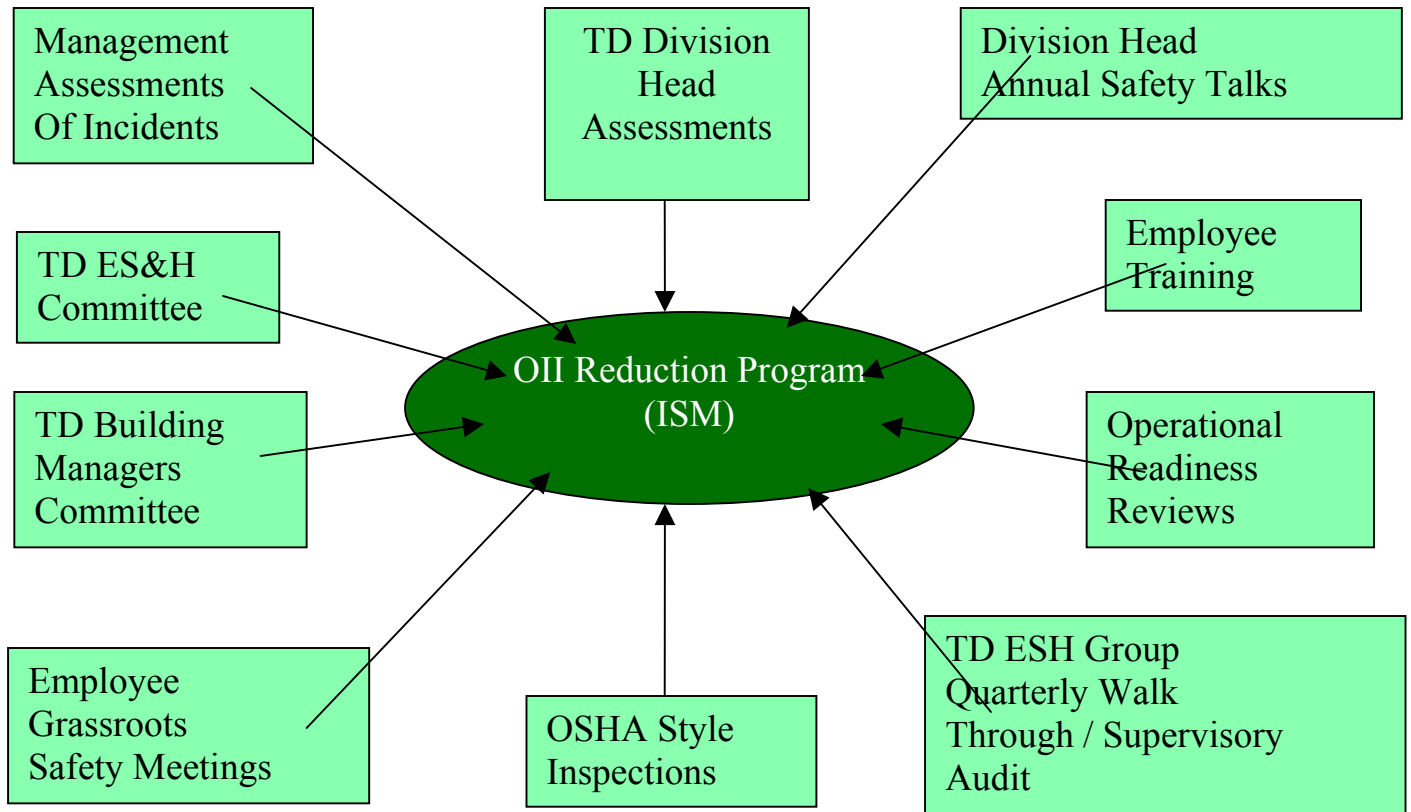
TD Policy and Procedures Manual: A hard copy of all the current division policies and procedures.

Training Tickler Report: A report generated from the TRAIN database that lists the past due training for the Technical Division.

US-LHC Safety Review Panel: The standing panel responsible for reviewing the design and operating rules for the magnet systems being built at Fermilab (in Industrial Center Building) and shipped to CERN. Special efforts are made to determine all hazards at the earliest stages of design and fabrication. Technical expert representatives from the Technical Division, Beams Division and Particle Physics Division sit on the panel, in addition to the Technical Division SSO.

## ATTACHMENT 3

### Technical Division Occupational Injury and Illness Reduction Program



## FINDINGS

*Space is provided below for 19 findings. If you have more than 19 findings, you will need to start a new document from the template. [ In such instances, each should be saved as a separate document that can later be combined into a complete self-assessment report.]*

*Findings should be limited to **substantive issues** that are clearly worthy of being addressed. They should be worded as “**statements of fact**” rather than instructions and should define a clear endpoint to be addressed. Observations, recommendations, suggestions, noteworthy practices, best management practices, and lessons learned that are clearly not “findings” should be included in the review description.*

<b><i>Finding #1</i></b>	Date found >	None Found	Citation >
Found within organization >			Location >
Title >			
Description >			
Hazard severity >	Pick	Mishap probability >	Pick
			Type > Pick

<b>Finding #2</b>	Date found >	Citation >
Found within organization >		Location >
Title >		
Description >		
Hazard severity >	Pick Mishap probability >	Pick Type > Pick

<b>Finding #3</b>	Date found >	Citation >
Found within organization >		Location >
Title >		
Description >		
Hazard severity >	Pick Mishap probability >	Pick Type > Pick

<b>Finding #4</b>	Date found >	Citation >
Found within organization >		Location >
Title >		
Description >		
Hazard severity >	Pick Mishap probability >	Pick Type > Pick



<b><i>Finding #10</i></b>	Date found >			Citation >	
Found within				Location >	
organization >					
Title >					
Description >					
Hazard	Pick		Mishap	Pick	
severity >			probability >		Type > Pick

<b><i>Finding #11</i></b>	Date found >			Citation >	
Found within				Location >	
organization >					
Title >					
Description >					
Hazard	Pick		Mishap	Pick	
severity >			probability >		Type > Pick

<b><i>Finding #12</i></b>	Date found >		Citation >	
Found within			Location >	
organization >				
Title >				
Description >				
Hazard	Pick	Mishap	Pick	Type >
severity >		probability >		Pick

<b><i>Finding #13</i></b>	Date found >			Citation >	
Found within				Location >	
organization >					
Title >					
Description >					
Hazard	Pick		Mishap	Pick	
severity >			probability >		Type > Pick

<b><i>Finding #14</i></b>	Date found >			Citation >	
Found within				Location >	
organization >					
Title >					
Description >					
Hazard	Pick		Mishap	Pick	
severity >			probability >		Type > Pick





# TECHNICAL DIVISION POLICIES AND PROCEDURES MANUAL

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